AMENDMENT TO THE CLAIMS.

1. (Canceled)

2. (Canceled)

3. (Currently amended) ~~The method of claim 1, and wherein said step (C) of accumulating said plurality of digital samples of said signal further includes the step of a memory logging process further comprising the steps of~~:

A method of acquisition a signal having a low signal to noise ratio (SNR), wherein said signal having said low SNR is emanating from a source selected from the group consisting of {a GPS satellite; a GLONASS satellite; a GALILEO satellite; and a pseudolite}, said method comprising the steps of:

(A) detecting a non-zero power in said signal having said low SNR during a power detect process;

(B) receiving said signal having said low SNR by using a signal receiver having an antenna;

(C1) employing an integer N plurality of In phase channel correlators configured to accumulate a plurality of I channel digital samples of ~~said~~ an incoming signal in an In phase (I) channel, and employing said integer N plurality of Quadrature channel correlators configured to accumulate a plurality of Q channel digital samples of said incoming signal during a predetermined time period;

(C2) writing into a first memory block a plurality of I channel digital samples of said incoming signal accumulated during said predetermined time period, and writing into a second memory block s a plurality of Q channel

digital samples of said incoming signal accumulated during said predetermined time period to complete a loop cycle of said memory logging process;

(C3) adjusting a code phase by using an expected code frequency offset deducted from a carrier frequency offset given by said power detect process to maintain a code phase of said incoming signal during said memory logging process;

(C4) counting a number of completed loop cycles;

(C5) if said number of completed loop cycles of said memory logging process is less than a predetermined integer number M of loop cycles, repeating said steps (C1-C5); ~~and~~

(C6) if a number of said completed loop cycles of said memory logging process is equal to said predetermined integer number M of loop cycles, ending said memory logging process;

and

(D) employing an algorithm to correct defects in reception of said signal having said low SNR by minimizing a set of parameters selected from the group consisting of: {a carrier frequency offset; a code phase offset; and a data bit misalignment}.

4. (Canceled)

5. (Canceled)

6. (Currently amended) ~~The method of claim 5, wherein said step (D2) of performing said carrier frequency false lock detection process further comprises the steps of:~~

A method of acquisition a signal having a low signal to noise ratio (SNR),

said method comprising the steps of:

(A) detecting a non-zero power in said signal having said low SNR during a power detect process;

(B) receiving said signal having said low SNR by using a signal receiver having an antenna;

(C) accumulating a plurality of digital samples of said signal within a predetermined period of time;

(D2,1) selecting a starting carrier frequency;

(D2,2) computing a starting signal power at said starting carrier frequency;

(D2,3) selecting a subsequent carrier frequency;

(D2,4) computing a subsequent signal power at said subsequent carrier frequency;

(D2,5) comparing said subsequent signal power at said subsequent carrier frequency with a signal power at a preceding carrier frequency and selecting a carrier frequency having the largest signal power;

and

(D2, 6) repeating said steps (D2,2) -(D2,5) until all carrier frequencies are processed.

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Currently amended) ~~The method of claim 1, wherein said step (D) of employing said algorithm to correct defects in reception of said signal having~~

~~said low SNR further includes the steps of:~~

A method of acquisition a signal having a low signal to noise ratio (SNR), said method comprising the steps of:

(A) detecting a non-zero power in said signal having said low SNR during a power detect process;

(B) receiving said signal having said low SNR by using a signal receiver having an antenna;

(C) accumulating a plurality of digital samples of said signal within a predetermined period of time;

(D4) running a data transition algorithm to minimize said data bit misalignment parameter;

(D5) running a carrier frequency estimation algorithm to minimize said carrier frequency offset parameter;

(D6) running a code phase estimation algorithm to minimize said code phase offset;

and

(D7) repeating said steps (D4-D6) until each said parameter selected from the group consisting of: {said carrier frequency offset; said code phase offset; and said data bit misalignment} converges on a corresponding minimized parameter selected from the group consisting of: {said minimized carrier frequency offset; said minimized code phase offset; and said minimized data bit misalignment}.

11. (Currently Amended) The method of claim 10, wherein said step (D4) of running said data transition algorithm to minimize said data bit misalignment

parameter further comprises the steps of:

(D4,1) determining the power of the difference between adjacent correlations taken over the entire correlator data set stored in ~~said~~ a first memory and stored in ~~said~~ a second memory;

and

(D4,2) summing said power of the difference between said adjacent correlations determined in said step (D4,1) over all possible data bit positions;

wherein said data transition algorithm cancels or enhances said received signal based on a presence or on absence of a data bit transition.

12. (Currently Amended) The method of claim 10, wherein said step (D5) of running said carrier frequency estimation algorithm to minimize said carrier frequency offset parameter further comprises the steps of:

(D5,1) accumulating the I and Q memory samples across a bit time period;

(D5,2) selecting the I and Q memory samples closest to a correlation peak;

(D5,3) estimating the phase of the carrier signal using said I and Q memory samples closest to said correlation peak;

(D5,4) estimating the frequency of the carrier signal by using difference sequential carrier measurements;

(D5,5) averaging said carrier frequency estimates across the entire data stored in said ~~fist~~ first and second memory;

and

(D5,6) using the resulting averaged frequency offset value for subsequent data processing.

13. (Currently Amended) The method of claim 10, wherein said step (D6) of running said code phase estimation algorithm to minimize said code phase offset further comprises the steps of:

(D6,1) accumulating an Early, Punctual, and Late correlator values over ~~said~~ a predetermined memory logging time period in both I and Q channels;

(D6,2) computing a correlation vector magnitude for each said Early, Punctual, and Late accumulated correlator values for each said bit period;

(D6,3) summing said correlation vector magnitude for each said Early, Punctual, and Late correlators over said predetermined memory logging time period to compute a peak equation; wherein said peak equation represents an optimized direction and an optimized size of a code phase error;

(D6,4) using said peak equation to compute a code phase error;

and

(D6,5) using said code phase error to achieve an optimized code tracking function.

14. (Currently Amended) ~~The method of claim 2, wherein said step (E) of performing tracking of said corrected received signal having said low SNR further includes the steps of:~~

A method of acquisition a signal having a low signal to noise ratio (SNR), said method comprising the steps of:

(A) detecting a non-zero power in said signal having said low SNR during a power detect process;

(B) receiving said signal having said low SNR by using a signal receiver having an antenna;

(C) accumulating a plurality of digital samples of said signal within a predetermined period of time;

(D) employing an algorithm to correct defects in reception of said signal having said low SNR by minimizing a set of parameters selected from the group consisting of: {a carrier frequency offset; a code phase offset; and a data bit misalignment};

(E1) loading ~~said~~ a first memory block and ~~said~~ a second memory block with a set of current I and Q digital samples of said received signal collected during said predetermined time period;

(E2) running said data transition algorithm to minimize said data bit misalignment parameter; running ~~said~~ a carrier frequency estimation algorithm to minimize said carrier frequency offset parameter; and running ~~said~~ a code phase estimation algorithm to minimize said code phase offset thus correcting said received signal having said low SNR;

(E3) performing a tracking function of said received corrected signal having said low SNR by applying said minimized carrier frequency offset and applying said minimized code phase offset to a Digital Signal Processing (DSP) block;

and

(E4) repeating said steps ((E1)- (E3)) until said tracking of said received corrected signal having said low SNR is continued.

15. (Currently Amended) The method of claim ~~15~~ 14, wherein said step (E3) of performing said tracking function of said received corrected signal having said low SNR further includes the steps of:

(E3,1) closing a code tracking loop;

(E3,2) closing a carrier tracking loop;

(E3,3) aligning data bit edges;

and

(E3,4) performing a data extraction operation and performing a pseudo range measurement operation by using said received corrected signal having said low SNR.

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled).

25. (Canceled)

26. (Canceled)

27. (Currently amended) ~~The apparatus of claim 25,~~

An apparatus for acquisition of a signal having a low signal to noise ratio (SNR), said apparatus comprising:

(A) a means for detecting a non-zero power in said signal having said low SNR during a power detect process;

(B) a means for receiving said signal having said low SNR;

(C) a means for accumulating a plurality of digital samples of said signal within a predetermined period of time;

(D) a means for correcting defects in reception of said signal having said low SNR by minimizing a set of parameters selected from the group consisting of: {a carrier frequency offset; a code phase offset; and a data bit misalignment}; wherein said means (D) for correcting said defects in reception of said signal having said low SNR further includes an algorithm comprising at least the following steps:

(D1) selecting a starting carrier frequency;

(D2) computing a starting signal power at said starting carrier frequency;

(D3) selecting a subsequent carrier frequency;

(D4) computing a subsequent signal power at said subsequent carrier frequency;

(D5) comparing said subsequent signal power at said subsequent carrier frequency with a signal power at a preceding carrier frequency and selecting a carrier frequency having the largest signal power;

and

(D6) repeating said steps (D2) -(D5) until all carrier frequencies are processed;

and

(E) a means for tracking said corrected received signal having said low SNR.

28. (Canceled)

29. (Currently amended) ~~The apparatus of claim 25~~,

An apparatus for acquisition of a signal having a low signal to noise ratio (SNR), said apparatus comprising:

(A) a means for detecting a non-zero power in said signal having said low SNR during a power detect process;

(B) a means for receiving said signal having said low SNR;

(C) a means for accumulating a plurality of digital samples of said signal within a predetermined period of time;

(D) a means for correcting defects in reception of said signal having said low SNR by minimizing a set of parameters selected from the group consisting of: {a carrier frequency offset; a code phase offset; and a data bit misalignment}; wherein said means (D) for correcting said defects in reception of said signal having said low SNR further includes an algorithm comprising at least the following steps:

(D11) running a data transition algorithm to minimize said data bit misalignment parameter;

(D12) running a carrier frequency estimation algorithm to minimize said carrier frequency offset parameter;

(D13) running a code phase estimation algorithm to minimize said code phase offset;

and

(D14) repeating said steps (D11-D13) until each said parameter selected from the group consisting of: {said carrier frequency offset; said code phase

offset; and said data bit misalignment} converges on a corresponding minimized parameter selected from the group consisting of: {said minimized carrier frequency offset; said minimized code phase offset; and said minimized data bit misalignment};

and

(E) a means for tracking said corrected received signal having said low SNR.

30. (Canceled)

31. (Canceled)